



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
097208,962	12/10/98	ELCO R	4414-D

MM11/0505  
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EXAMINER  
ABRAMS, N

ART UNIT	PAPER NUMBER
2839	

DATE MAILED: 05/05/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

08/208962

Applicant(s)

E1co

Examiner

Abrams

Group Art Unit

2839

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

☒ Claim(s) 1-40

is/are pending in the application.

Of the above claim(s) \_\_\_\_\_

is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_

is/are allowed.

☒ Claim(s) 1-40

is/are rejected.

☐ Claim(s) \_\_\_\_\_

is/are objected to.

☐ Claim(s) \_\_\_\_\_

are subject to restriction or election requirement.

## Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
  - ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

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PTO-1449, the listed foreign patents are not present in this case or the parent case.

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Abstract is objected to as unclear and as failing to set forth basic aspects of the inventions being claimed. It could be rewritten as follows with inclusion of numerals;

*drop*  
--- A plug (420) includes a housing (422), rows of signal contacts (426-434) and elongated ground or power elements (436-446), located between the rows of signal contacts. A receptacle (456) includes a housing, and signal contacts (462-470) and elongated ground or power elements (472-482) located for ~~signal~~ mating with corresponding <sup>signal</sup> contacts and ground or power elements of the plug. For both plug and receptacle the signal constants and power or ground elements are positioned in a perpendicular relationship to define an I-beam geometry for lower cross talk and impedance control when the plug and receptacle are mated. The signal contacts and power or ground elements include angled ~~tail~~ portions to be located in recesses in mounting surfaces of the housings and to which solder balls are attached. — —

Designation of this case as a "continuation" is objected to. The parent cases provide no mention of "solder masses". Terms "solder conductive tabs" along with depictions at 452, 454, 470, 490 are not seen to provide clear support for claimed subject matter. No evidence is seen to show that such tabs should be viewed as depicting solder balls. If applicant takes issue with above objection, an affidavit might be submitted and would be considered by the examiner.

*drop  
chil  
OK on 9  
CON*

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Figs. 26, 27 "424" should be added. Fig. 28, "460" leadline seems incorrect. Also "460" should be added to fig. 31. For figs. 32, 33, numerals should be added for contact angled portions, solder balls etc. Figs. 28, 30, numeral 470 used incorrectly.

Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect can be deferred until the application is allowed by the examiner.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-40 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claimed features lack enabling basis in the disclosure as filed

The pertinent portion of the spec. Pages 14, 15, make no mention of "solder masses" attached to contacts. Portions 454, 490 are referred to only as "solder conductive tabs". Also

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note that reference to "solder balls (masses)" only began with amendments to this case and was not present in parent cases.

The spec. ~~also~~<sup>also</sup> lacks basis for claim 13, "mounting surfaces", "substrates", "angled portions", "recesses", ~~and~~ claim 17, masses being "reflowable" or the claims 27, 28, 35, 36, 39, 40 features. For claim 28, the depicted housing does not appear to be planar. For claims 27, 39, 40, exactly what features are referred to is unclear. For claim 5, recited "coupling" aspects lack clear and enabling disclosure.

Claims 15 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 is unclear;

Claim 15, terms "said --- housing lack antecedent basis.

Claims 1-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fedder, Kandybowski, Feldman or Korsunsky, anyone of them taken with Noschese, Swamy, Romine, Teka, Lin, Seidler and Electronics.

All of the main reference plugs and sockets include signal contacts angularly positioned to ground elements. See Fedder, contacts 52, (blade portions 55) and elements 58. For all main reference contacts and ground elements, obvious to add solder masses in view of Noschese at 28, 92, Swamy at 212, Romine at 52 Teka, Lin at 32, Seidler at 26 (see figs. 9, 10) and Electronics. For claim 13, 22, 30, 35, etc see Kandybowski at 38, 60, 54, fig. 4 and Feldman, fig. 1 at 16, 22

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and fig. 3 at 60, 60. Obvious to form the contact mounting portions of these patents with solder masses in view of Electronics, Teka, Seidler and Noschese at 92. Any of these masses, as well as the Noschese portions 28 are equivalent to the recited solder balls.

Claims 18-40 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Romine, Swamy, Lin, Teka, Seidler or Noschese any one of them alone or with Feldman.

Claimed features met by references or should issues arise, considered obvious variations. Noschese, see figs. 3, 4, 11. Seidler, see figs. 9, 10. Romine see fig. 5. Lin vias 24 are read s contacts. Also obvious to use solder balls in Romine in place of solder masses 52.

Also obvious to form main reference (Romine, Noschese, etc) device mating part with housing wall about pins as in Feldman at 4 or 2.

Claims 1-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Romine in view of Fedder Feldman, Noschese, Seidler, Electronics, Teka, Lin and Swamy.

For the Romine, figs. 5 and 10 connectors obvious to add solder masses in view of Seidler, Noschese, Electronics, Teka, Lin and Swamy. For claim 1, also obvious to use mixture of signal contacts and ground elements in view of Fedder, and Feldman, the contacts angled to the elements and to add (claim 29) a peripheral wall in view of Feldman at 4 and Fedder at 14. Note that since the signal contact to ground element relationship is independent of the solder mass features, the combination of these concepts, as in claim 1, should not provide a basis for patentability.

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Any inquiry concerning this communication should be directed to N. Abrams at telephone number (703) 308-1729.

Abrams/ds

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NEIL ABRAMS  
EXAMINER  
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